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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/385,014      | 08/27/1999  | NAOHARU SHINOZAKI    | P8075-9014          | 8603             |

7590 02/02/2004  
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EXAMINER

LE, DINH THANH

ART UNIT PAPER NUMBER

2816

DATE MAILED: 02/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/385,014

Applicant(s)

SHINOZAKI, NAOHARU

Examiner

DINH T. LE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 4-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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***NON-FINAL REJECTION***

***Response to Application's Amendment***

The rejection under 35 USC 112, second paragraph, is withdrawn in view of the amendments to the claims.

***Claims Rejection***

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4-5 and 16-21 are rejected under 35 USC 103(a) as being unpatentable over Takahashi et al (JP40927070) in view of Volk et al (US 5,999,020).

Takahashi et al teaches an amplifier circuit in Figures 1-5 comprising a differential circuit (N3, N4, P3, P4), a current regulating circuit (P2, N6), a constant current source (P1, N5) and an even number of inverters in a feedback loop, but does not disclose that the regulating circuit current increases an amount of the current flowing through the differential circuit in response to the internal signal when the first transistor is turned on. and the current regulating circuit decreases an amount of the current flowing through the differential circuit when the first transistor is turned off. Volk et al teaches in Figure 10 a buffer circuit comprising an odd number of inverters (64, 66, 868) in the feedback loop for increasing an amount of the current

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flowing through the differential circuit in response to the internal signal when the first transistor is turned on and decreasing an amount of the current flowing through the differential circuit when the first transistor is turned off that enables the differential circuit conducts current longer, see the Abstract. It would have been obvious to a person having skill in the art at the time the invention was made to employ an even number of inverters in the feedback loop taught by Volk et al in the circuit of Takahashi et al the purpose of enabling the differential circuit conduct current longer to fix the slow transitions of the amplifier output signal caused by load.

Claims 6-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Figure 1 of the applicant's admitted prior art in view of Takahashi et al (JP40927070) and further in view of Volk et al (US 5,999,020).

Figure 1 of the admitted prior art shows a circuit comprising the amplifier

(2a), and a processing signal circuit or a latch circuit (3) but does not disclose that the amplifiers have a current regulating circuit for increasing an amount of the current flowing through the differential circuit in response to the internal signal when the first transistor is turned on and decreasing an amount of the current flowing through the differential circuit when the first transistor is turned off, and that the processing signal circuit includes a plurality of processing circuits. Takahashi et al in view of Volk et al teaches a modified amplifier circuit as discussed above. It would have been obvious to a person having skill in the art at the time the invention was made to employ the modified amplifier circuit taught by Takahashi et al in view of Volk et al in the circuit of the admitted prior art for the purpose of fixing the slow transitions of the amplifier output signal caused by load. Note that, as notoriously well known in the art, the

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latch circuit or the processing signal circuit of the admitted prior art can be duplicated to provide more output signals. Thus, duplicating the latch circuit of the circuit of the admitted prior art is a common practice for an engineer is considered to be a matter of the design expedient for the engineer depending upon a particular application. See *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. Noting that the phase difference between the output signal and the output signal of Takahashi et al is adjustable using the inverters. Therefore, adjusting the output phase same as the input phase for a particular environment would have been obvious to a person having skill in the art.

### ***Response to Applicant's Arguments***

The applicant argues that Takhashi et al does not discloses that the current regulating circuit increases an amount of the current flowing through the differential circuit in response to the internal signal when the first transistor is turned on and decreases an amount of the current flowing through the differential circuit when the first transistor is turned off. The argument is persuasive. However, this limitation is suggested in the Volk et al reference as discussed above.

### ***CONCLUSION***

Any comments considered necessarily by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Dinh Le whose telephone number is (703) 305-3790. The examiner can normally be reached on Monday to Friday from 7:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached on (703) 308-4876. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

*January 29, 2004*

A handwritten signature in black ink, appearing to read 'Dinh T. Le', with a long, sweeping horizontal line extending to the right.

DINH T. LE  
PRIMARY EXAMINER